

Research finds using computer simulations to carefully re-expose individuals to traumatic events reduces symptoms

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by **Renee Lewis**

Read, Respond to 35 at end

A new study has shown that therapy using virtual reality technology can help combat veterans overcome post-traumatic stress disorder, or PTSD, by re-exposing them to traumatic events in a simulated, controlled cyber-environment, researchers said Tuesday.

"What we've found over the past 30 years is that the only way to get people over trauma, whether it's rape, a car accident, or a natural disaster, is to put them back into that situation," Dr. Brenda K. Wiederhold, president of the Virtual Reality Medical Institute and author of the study, told Al Jazeera.

"What happens with PTSD is that they have fragmented memories," she said. "They say they feel stuck in time and they're having flashbacks that they can't control."

The study, "Effect of Virtual Reality PTSD Treatment on Mood and Neurocognitive Outcomes," was released Tuesday and published by the medical journal *Cyberpsychology, Behavior, and Social Networking*.

PTSD is triggered by a traumatic event, and is followed by a number of symptoms including: emotional numbing or avoidance of thoughts, feelings, conversations, or places associated with the trauma; exaggerated and startled responses; or difficulty concentrating.

Researchers say exposure therapies, like the virtual reality-based technique studied in the new report, can help sufferers directly confront those fears and the issue of avoidance. Many experts believe that exposure therapy is one of the most effective ways to treat PTSD.

In the new study, 28 individuals suffering from PTSD were "returned" via computer simulation to the stress-inducing event. The report said the simulation process was done carefully and systematically so that the individuals would not become re-traumatized.

During that process, an individual's physiological stress response was monitored to ensure they remained in control of their fears. They were then given training that is supposed to allow them to develop coping skills to combat stress responses on their own.

"We teach them how to control breathing, heart rate, respiration, sweat gland response,

and teach them some processes to control automatic thoughts," Wiederhold said. "It keeps them from becoming overwhelmed by the emotion."

Weiderhold's Virtual Reality Medical Institute, a private behavioral health care clinic in Belgium, has also developed smart phone apps, including two called "Mental Armor Training" and "Positive Technology," that can be used to train individuals to monitor their own stress responses once they have finished therapy.

Critics of exposure therapies for PTSD say that the techniques can backfire for some — leading some people to become even more traumatized from the new experience. Others argue the process over-simplifies the trauma, and they emphasize the need for talking through the issues — some of which can be absent from exposure therapies.

The virtual reality-based therapy in the new study attempted to address both of those criticisms by having subjects talk through their traumas and by carefully controlling any re-introduction to stress-inducing events, the researchers said.

In one example in the study, a veteran — who had just returned from Iraq and is suffering from PTSD — talked through his combat experience before going through a simulation of an improvised explosive device hitting his convoy.

"It starts to bring up a lot of memories ... but not in an overwhelming manner," Wiederhold said. "If his heart rate goes too high, we offer to stop, to do breathing exercises, or to exit the virtual world."

She said that while re-living the situation can be frightening and stressful, there is a small part of the brain that knows it is not real. When subjects know they are in complete control over the process, they are better able to handle and process the stress.

Reassembling memories can help a person move on from the "frozen in time" feeling many PTSD sufferers get, Wiederhold said.

The study found that virtual reality-based treatment was associated with a significant reduction in PTSD severity, as well as overall anxiety, the report said.

On your warmup:

① Describe how this approach is different than other techniques.

② What do you think of this therapy? Why? Explain.